

REMARKS

The last Office Action has been carefully considered.

It is noted that claims 1, 2, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) over the patent Dunne.

Claim 7 is rejected under 35 U.S.C. 103(a) over the patent to Dunne.

Claims 3-5 and 10 are rejected under 35 U.S.C. 103(a) over the patent to Dunne in view of the patent to Heironimus.

After carefully considering the Examiner's grounds for the rejection of the claims, applicants amended independent claim 1 and submitted new independent claim 11 to more clearly define the present invention and to distinguish it from the prior art.

Turning now to the Examiner's rejection of claim 1 over the art, it is respectfully submitted that the patent to Dunne, et al discloses a modular laser-based surveying system which comprises a laser-based distance measuring module 12 and a separable compass module 14 removably coupled to the laser

based distance measuring module 12. The laser module 12 encloses a laser transmitter which transmits a plurality of laser light pulses. From the time of flight of these pulses a range to a target object can be determined.

The feature that the laser of the laser module 12 emits laser light in the visible wavelength range is not disclosed in Dunne, et al. Furthermore, the patent to Dunne, et al does not teach to use the laser of the laser module 12 for emitting a signal to inform the user about the actual orientation of the laser module 12. Thus the invention as defined in the amended claim 1 is novel over the reference to Dunne, et al.

It should be further emphasized that a person skilled in the art could not find in the patent to Dunne, et al any hints which at the time the invention was made would have led him to the invention as defined in the amended claim 1. With this invention, in which an existing laser measuring unit is used to emit a signal related to the orientation of the measuring device, the integration of a supplemental signal transducer into the device or the use of an external unit can advantageously be spared, whereby components and costs can be reduced.

The patent to Dunne, et al teaches a signal transducer in the form of a loudspeaker, which, according to a signal being output by a tilt sensor gives

information about the actual orientation of the compass module 14. The loudspeaker and the tilt sensor are therefore both mounted in the compass module 14. Thus the user needs imperatively to fix an external unit, namely the compass module 14, on the laser module 12 in order to get information about the orientation of the laser module 12. This leads the person skilled in the art away from the invention which teaches to use an existing unit integrated in the measuring device, in particular the laser measuring unit, to output information about the orientation of the measuring device. Therefore the invention should be considered as inventive over the reference to Dunne, et al.

Original claim 1 was rejected by the Examiner as being anticipated by the patent to Dunne. In connection with the anticipation rejection, it is believed to be advisable to cite the decision in *re re Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984) in which it was stated:

“Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.”

Definitely, the patent to Dunne does not disclose each and every element of the present invention as now defined in the amended claim 1.

Therefore the anticipation rejection should be considered as not tenable with respect to claim 1 and should be withdrawn.

The patent to Heironimus (US 6,037,874) teaches an electronic level emitting a laser beam according to the orientation of the level. A person skilled in the art considering the reference to Heironimus would at the time the invention was made try to modify at low cost the signal transducer at hand in Dunne, et al by means of features of the electronic level as disclosed in Heironimus. In Heironimus the person skilled in the art would find a suggestion which leads him to modify the acoustical signal transducer of the compass module 14 in a way that the beep frequency of the warning beeps (see Dunne,et al in column 6, lines 63) changes according to the orientation of the compass module 14 as described for the laser beam in Heironimus (see column 8, lines 3-23). With this combination the person skilled in the art is not led in an obvious way to the invention. Therefore the invention as defined in the amended claim 1 should be considered as inventive over a combination of Dunne, et al and Heironimus.

In connection with the combination of the patents to Dunne and Heironimus, it is respectfully submitted that as explained herein above, none of these references teaches the new features of the present invention as defined in claim1. In order to arrive at the applicant's invention from the teachings of the references, the references have to be fundamentally modified. However, it is

known that in order to arrive at a claimed invention, by modifying the references the cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals which, for example, held in its decision in *re Randol and Redford* 165 USPQ 586 that:

“Prior patents are references only for what they clearly disclose or suggest; it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest”.

It is therefore believed to be clear that any combination of the patents to Dunne and Heironimus would not lead to the applicant's invention, and the obviousness rejection based on the combination of the references can not be considered as applicable with respect to claim 1.

New independent claim 11 includes features taken from the specification, and it in particular specifies that the position sensor, the signal transducer and the laser are incorporated in a common housing.

The features of a housing is disclosed in Figure 1. The feature of a laser is disclosed in lines 6-7 on page 6 of the specification. The features that the laser, the position sensor and the signal transducer are integrated in the

housing are disclosed in lines 6-7 and 26-30 on page 6 as well as in the figures. The claim 11 further comprises the features of the original claim 2.

The patent to Dunne, et al discloses as described before a system being composed of a laser module 12 and a separable compass module 14. The laser module 12 comprises a laser for determining a range to a target object. A tilt sensor and an acoustic signal transducer are integrated in the compass module 14 which is removably mounted on the laser module. Thus Dunne, et al does not disclose the feature of a laser, a position sensor for determining the orientation of the measuring device and a signal transducer to inform the user about the orientation, which are integrated in a common housing.

The invention as described in claim 11 has the advantage that the relative position of the laser and the tilt sensor 22 is fixed once for all and can not be changed by the user. By the assembling of the measuring device the laser and the tilt sensor can be aligned with respect to each other such that the orientation information being output by the tilt sensor corresponds exactly to the orientation of an emitted laser beam relative to the ground or another direction of reference. Due to this a high precision by a distance measurement can be achieved.

In the patent to Dunne, et al the tilt sensor and the acoustic signal transducer serve primarily to give information about the orientation of the compass module 14 and are therefore both integrated in the compass module 14. The aim of the signaling of to incorrect orientation of the compass module 14 by means of the loud-speaker is o guarantee that the compass at the upper end of the housing 52 of the compass module 14 remains substantially in a horizontal plane. As recited in the specification in Dunne, et al, this feature is particularly valuable when the compass module 14 and the laser module 12 are separated from each other (see column 6, line 61 to column 7, line 3). In this typical situation of use, the tilt sensor and the signal transducer are even taken away from the laser. This leads away from the invention as defined in claim 11, in which is proposed to integrate the position sensor, the signal transducer and the laser in a common housing.

In order to give information about the orientation of the laser system, the compass module 14 comprising the tilt sensor has to be mounted on the laser module 12. Due to this, in particular in view of tolerances at the coupling point between the laser module 12 and the compass module 14, the alignment of the tilt sensor in the compass module 14 on the longitudinal axis defined by the laser in the laser module 12 cannot be guaranteed. Therefore the information being output by the acoustic signal transducer can possibly not correspond exactly to the orientation of an emitted laser beam. In view of this a

high precision by a distance measurement cannot be achieved, since misalignment of the laser beam relative to a preferred direction is possible.

Therefore the invention as defined in claim 11 should also be considered as patentable over the art.

Claim 12 depends on claim 11, the features of this new claim are disclosed in the specification in lines 4-6 on page 2 and in lines 21-27 on page 8 of the specification, and its features also clearly and patenably distinguish from the prior art.

As for other claims, these claims are dependent claims, they depend on the corresponding independent claims, and share their presumably allowable features, and therefore they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by

Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,

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